

Patent
Attorney Docket: LYNN/0152

IN THE CLAIMS

Please withdraw claims 27-39 and 44 from consideration.

1. (Original) A method of assembling electrochemical cell components, comprising:
aligning first and second electrochemical cell components;
providing a bonding agent between the first and second electrochemical cell components;
placing the aligned components into a container consisting essentially of a pliable bag; and
drawing a vacuum within the pliable bag, wherein the pliable bag molds to a shape of the aligned components.
2. (Original) The method of claim 1, further comprising:
applying pressure to the outside of the vacuum bag, wherein the pressure is selected from hydrostatic pressure and pneumatic pressure.
3. (Original) The method of claim 1, further comprising:
placing the sealed vacuum bag containing the components into an oven.
4. (Original) The method of claim 1, further comprising:
distributing the bonding agent through one or more closed channels formed between the first and second electrochemical cell components.
5. (Original) The method of claim 4, wherein the step of distributing the bonding agent through one or more closed channels further comprises:
adding the bonding agent into an upward-facing open channel in the bonding surface of the first component;
creating the closed channel when the second component is aligned with the first component;
and

Patent
Attorney Docket: LYNN/0152

inverting the components, wherein the bonding agent flows against the second component by means selected from gravity, capillary action and combinations thereof.

6. (Original) The method of claim 5, wherein the open channel contains a plurality of supports disposed in the open channel, the method further comprises:

- supporting a section of the second component that covers the open channel;
- supporting the open channel, wherein the first and second components do not deform from pressure exerted by the pliable bag.

7. (Original) The method of claim 5, wherein the second component has a plurality of supports protruding from a section that covers the open channel, the method further comprising:

- supporting a section of the second component that covers the open channel,
- supporting the open channel, wherein the first and second components do not deform from pressure exerted by the pliable bag.

8. (Original) The method of claim 4, wherein the step of distributing the bonding agent through a channel further comprises:

- adding a bonding agent into the closed channel through one or more fill ports, wherein the one or more fill ports are in fluid communication with the closed channel.

9. (Original) The method of claim 8, wherein the bonding agent source is a syringe, pump, or other delivery device having a conduit adapted to form a seal with each of the one or more fill ports, the method further comprising:

- injecting a bonding agent into the closed channel from the delivery device.

10. (Original) The method of claim 4, wherein an overflow reservoir is in fluid communication with the closed channel, the method further comprising:

- capturing excess bonding agent flowing from the closed channel into the overflow reservoir.

Patent
Attorney Docket: LYNN/0152

11. (Original) The method of claim 8, wherein the bonding agent source is an open reservoir in one or more of the components, the method further comprises:

pushing the bonding agent into the closed channel with the pliable bag as the vacuum causes the pliable bag to mold to the shape of the reservoir.

12. (Original) The method of claim 11, wherein the reservoir contains a spring pushing against the pliable bag, the method further comprises:

maintaining pressure with the spring against a portion of the pliable bag molding to the shape of the reservoir, wherein the spring limits a speed at which the bonding agent is forced from the reservoir.

13. (Original) The method of claim 11, wherein an overflow reservoir is in fluid communication with the closed channel, the method further comprising:

capturing excess bonding agent flowing from the closed channel into the overflow reservoir.

14. (Original) The method of claim 1, further comprising:

maintaining alignment of the cell components by disposing a bonding agent between the components.

15. (Original) The method of claim 1, further comprising:

treating a bonding surface on the first and second electrochemical cell components to enhance flow of the bonding agent; and

treating a non-bonding surface on the first and second electrochemical cell components to inhibit flow of the bonding agent.

16. (Original) The method of claim 15, wherein the step of treating a bonding surface comprises a process selected from applying a wetting agent, polishing, etching and combinations thereof.

Patent
Attorney Docket: LYNN/0152

17. (Original) The method of claim 15, wherein step of treating a bonding surface comprises applying a wetting agent selected from detergents, soaps, surfactants, anionic, and cationic surface active compounds.
18. (Original) The method of claim 15, wherein the step of treating a non-bonding surface comprises a process selected from roughening, chemically modifying, coating, and combinations thereof.
19. (Original) The method of claim 1, further comprising:
 providing a feature along an interface between the first and second electrochemical cell components and between a bonding area and a non-bonding area;
 retaining and confining excess bonding agent to the region bounded by the features to prevent the bonding agent from reaching the non-bonding area.
20. (Original) The method of claim 1, wherein the pliable bag is made of a material selected from polyethylene and a nylon-polyethylene blend.
21. (Original) The method of claim 20, wherein the pliable bag has a thickness of between about 2 mils and about 7 mils.
22. (Original) The method of claim 1, wherein the step of sealing the bag further comprises melting unsealed edges of the bag together.
23. (Original) The method of claim 1, wherein the step of sealing the bag includes hermetically sealing the bag.
24. (Original) The method of claim 1, wherein the first and second components are placed in the pliable bag without an alignment frame.

Patent
Attorney Docket: LYNN/0152

25. (Original) The method of claim 1, wherein the vacuum inside the sealed bag is maintained without maintaining a connection to a vacuum source.
26. (Original) The method of claim 1, further comprising:
 sealing the bag to retain the vacuum within the bag; and
 maintaining the vacuum within the bag.
- 27-39. (Withdrawn)
40. (Original) The method of claim 1, further comprising:
 maintaining the vacuum within the bag until the bonding agent has cured.
41. (Original) The method of claim 1, further comprising:
 maintaining alignment of the cell components by interlocking one or more feature between the first and second cell components.
42. (Original) The method of claim 41, wherein the one or more interlocking feature is a pin.
43. (Original) The method of claim 14, wherein the bonding agent is a contact adhesive.
44. (Withdrawn)
45. (Original) A method of assembling electrochemical cell components, comprising:
 aligning first and second electrochemical cell components;
 providing a bonding agent between the first and second electrochemical cell components;
 placing the aligned components into a pliable bag,
 placing the pliable bag within a vacuum chamber; and
 drawing a vacuum on the vacuum chamber.
46. (Original) The method of claim 45, further comprising:

Patent
Attorney Docket: LYNN/0152

sealing the bag to retain the vacuum within the bag; and
removing the sealed bag from the vacuum chamber, wherein the pliable bag molds to a shape of the components.

47. (Original) The method of claim 45, further comprising:
maintaining the vacuum inside the sealed bag.
48. (Original) The method of claim 46, further comprising:
maintaining the vacuum until the bonding agent has cured.